

**Amendment and Response**

Applicant: David Vaughn

Serial No.: 10/622,847

Filed: July 18, 2003

Docket No.: A126.115.102

Title: OPTICAL THROUGHPUT CONDENSER

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**REMARKS**

These remarks are made responsive to the Non-Final Office Action mailed June 24, 2005. In that Office Action, the Examiner withdrew claims 1-8 as being drawn to a non-elected invention. Claims 9-14 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter. Claim 9 was further rejected under 35 U.S.C. §112, second paragraph, as being incomplete for omitting essential elements. Claims 10-14 were rejected because of dependency upon rejected claim 9. Claims 9, 10, 13, and 14 were rejected under 35 U.S.C. §102(b) as being anticipated by Vogel et al., U.S. Patent No. 6,759,814 (“Vogel”). Claim 15 was rejected under 35 U.S.C. §102(b) as being anticipated by Vogel. Claims 11 and 12 were rejected under 35 U.S.C. §103(a) as being unpatentable over Vogel as applied to claim 9 above, and further in view of Wilson, U.S. Patent No. 6,299,328 (“Wilson”).

With this Response, claims 1-8 have been withdrawn and claims 9-12, 14, and 15 amended. Claims 1-15 remain pending in the application and are presented for reconsideration and allowance.

**35 U.S.C. §112, Second Paragraph, Rejections**

On pages 3 and 4 of the Office Action, the Examiner objected to claim 9 and 14 due to minor informalities. With this Amendment, these informalities have been corrected. In particular, proper antecedent basis is now provided for all claimed elements in both claims 9 and 14. Therefore, Applicant respectfully requests that the objections to claims 9 and 14 be withdrawn.

On page 4 of the Office Action, the Examiner rejected claims 9-14 under 35 U.S.C. §112. The Examiner indicated that independent claim 9 was incomplete for omitting essential elements. With this Amendment, independent claim 9 has been amended such that all essential elements are now claimed. Therefore, it is respectfully requested that the rejection to claims 9-14 under 35 U.S.C. §112, second paragraph, be withdrawn.

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**35 U.S.C. §§102 & 103 Rejections**

On pages 4 and 5 of the Office Action, the Examiner rejected claims 9, 10, 13, and 14 under 35 U.S.C. §102(b) as being anticipated by Vogel. In particular, the Examiner indicated that Vogel discloses “an illuminating source 26, providing a rage of angles (Figure 2), a transmissive substrate 20, an integrated sphere 10, wherein Figure 2 shows the transmissive substrate 20 is used to direct light toward the integrating sphere.”

With this Amendment, independent claim 9 has been amended to more particularly point out and distinctly claim the subject matter which is patentably distinguishable over the cited prior art, including Vogel. In particular, independent claim 9 recites an optical illumination system which includes an illuminating source capable of providing light transmissions having a range of angles; a transmissive substrate; and a thin film coating positioned on a surface of the transmissive substrate. The thin film coating includes a gate angle such that light transmissions striking the thin film coating with an angle less than or equal to the gate angle transmits through the thin film, while light transmission striking the thin film coating with an angle greater than the gate angle reflects back from the thin film. The optical illumination system of claim 9 further includes an integrating sphere positioned such that light transmissions reflecting back from the thin film is directed within the integrating sphere and subsequently redirected towards the thin film coating.

Vogel does not teach, disclose, or suggest, several of the claimed elements of independent claim 9. In particular, Vogel does not teach, disclose, or suggest a thin film coating positioned on a transmissive substrate. Nor does Vogel teach, disclose, or suggest that a thin film coating includes a gate angle such that light transmissions striking the thin film coating with an angle less than or equal to the gate angle transmits through the thin film, while light transmission striking the thin film coating with an angle greater than the gate angle reflects back from the thin film. Rather, Vogel merely discloses a filter means, preferably an infrared (IR) filter 20. Filter 20 is merely an infrared filter which prevents contaminants such as dust from entering the spherical integrating chamber 10. *See Vogel at col. 7, lines 15-21.* There is no teaching in Vogel regarding a thin film coating positioned on a surface of a transmissive

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substrate. Nor, does Vogel teach that the thin film coating includes an angle gate, as claimed in independent claim 9.

Vogel also does not teach, disclose, or suggest an integrating sphere positioned such that light transmissions having an angle greater than the angle gate of the thin film coating reflects back from the thin film and is directed towards an integrating sphere. In fact, Vogel teaches the opposite of what is claimed in independent claim 9. Vogel particularly discloses integrating chamber 10 positioned on the opposite side of IR filters 20 from energy emitting means or LEDs 26. In addition, Vogel does not teach, disclose, or suggest light transmissions reflecting back from a thin film into an integrating sphere. In fact, no energy emissions from LEDs 26 are reflected back from IR filters 20. IR filters 20 do not have the ability to prevent energy emissions from traveling through the filters. All energy transmissions are transmitted through IR filters 20. Thus, all energy emissions from LEDs 26 are transmitted through IR filters 20 towards integrating chamber 10, positioned on the opposite side of IR filters 20 from LEDs 26.

For the aforementioned reasons, it is believed that independent claim 9 is patentably distinguishable over the cited prior art, including Vogel. In addition, claims 10, 13, and 14 are dependent claims which depend from independent claim 9. Therefore, it is also believed that dependent claims 10, 13, and 14 are patentably distinguishable over the cited art of record.

On page 5 of the Office Action, the Examiner rejected claim 15 under 35 U.S.C. §102(b) as being anticipated by Vogel. It is believed that the rejection of claim 15 under 35 U.S.C. §102(b) is not proper since the Examiner admits that regarding claim 15, “Vogel does not disclose the method of re-concentrating the light, however, it is inherent to take all of the limitations as cited and provide a method of re-concentrating the light, since it is inherent that the limitations of the claim are met by Wilson.” It is believed that the Examiner meant to reject claim 15 under 35 U.S.C. §103 due to the combination of Vogel and Wilson.

Regardless of the Examiner’s intentions, independent claim 15, as amended, is patentably distinguishable over the cited prior art, including Vogel and Wilson. Neither reference, taken individually or in combination, teaches, discloses, or suggests directing a series of light transmissions toward a thin film such that a first portion of the series of light transmissions having a gate angle less than or equal to a gate angle of the thin film is transmitted through the

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thin film and a second portion of the series of light transmissions having a gate angle greater than the gate angle of the thin film is reflected back from the thin film. Also, neither reference teaches, discloses, or suggests redirecting the second portion of the series of light transmissions back toward the thin film. Therefore, it is believed that independent claim 15 is patentably distinguishable over the cited art of record, including Vogel and Wilson.

On pages 6 and 7 of the Office Action, the Examiner rejected claims 11 and 12 under 35 U.S.C. §103 as being unpatentable over Vogel and further in view of Wilson. Claims 11 and 12 are dependent claims which depend from independent claim 9. As previously discussed, it is believed that independent claim 9 is patentably distinguishable over the cited art of record. Therefore, it is also believed that claims 11 and 12 are patentably distinguishable over the cited art of record.

**CONCLUSION**

In view of the above, Applicant respectfully submits that pending claims 9-15 are in form for allowance and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of claims 9-15 is respectfully requested.

No fees are required under 37 C.F.R. 1.16(b)(c). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 50-0471.

The Examiner is invited to contact the Applicant's representative at the below-listed telephone numbers to facilitate prosecution of this application.

Any inquiry regarding this Amendment and Response should be directed to Michael R. Binzak at Telephone No. (612) 573-0427, Facsimile No. (612) 573-2005. In addition, all correspondence should continue to be directed to the following address:

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Respectfully submitted,

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**CERTIFICATE UNDER 37 C.F.R. 1.8:**

The undersigned hereby certifies that this paper or papers, as described herein, are being deposited in the United States Postal Service, as first class mail, in an envelope address to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 23<sup>rd</sup> day of September, 2005.

By   
Name: Michael R. Binzak